PE-C4-410 PAGE 1

## GOODWILL INSTRUMENT (MALAYSIA) SDN. BHD.

## CALIBRATION STANDARD PROCEDURES

FUNCTION GENERATOR MODEL: GFG-813

APPLICABLE ODM MODEL: FG-813; BK-3040

GW GOODWILL INSTRUMENT (M) SDN BHD.								
APPROVED BY CHECKED BY PREPARED BY								

TOTAL PAGE: 15
(INCLUDING COVER PAGE)

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	CALIBRATION I	PRO	CESS
1	FOR INTERNAL I	USE	ONLY

PAGE: 2 STATION: PRE-ADJUST

NO	Adjustment	Location	Particular	Specification	Remarks
1	Initial Setting.		POWER Switch = ON;		Instrument Used:
			EXT COUNTER: release all buttons;		20Mhz O'scope
			MAIN GENERATOR : AMPL=Max, ATT= Release,		
			OFFSET & SYM= Push, TRIGGER PHASE=Free run;		
			MODULATION: AM, FM & SWP=Release,		
			MODULATION Output=Max, SYM=CAL.		
2	Puncture [ HI POT] Test.		Connect AC cord's GND, Life & Neutral pins respective.		GPT-515A:
	,				O/P voltage = 1.5 KV
					Cutoff Current = 1 mA
					Timer = 60 Sec
3	Functioning Check.		Check the function of all VRs & button switches		20Mhz O'scope
			corresponing to the output waveform.		
4	Burn - in.		Deliver the sets to the burn-in chamber.	50 / 4 Hours	
	DOWILL INSTRUMENT	APP	ROVED BY CHECKED BY PREPARED	ВҮ	APPLICABLE ODM MODEL :
	LAYSIA) SDN. BHD. GINEERING DEPARTMENT				FG-813 BK-3040

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CALIBRATION PROCESS	

PAGE : STATION :

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NO	Adjustment	Location	Particular	Specification	Remarks
1	Initial Setting		POWER Switch = ON;		Instrument Used:
			EXT COUNTER: release all buttons;		1. Dmm [GDM-8045G]
			MAIN GENERATOR : AMPL=Max, ATT= Release,		2. 20Mhz O'scope
			OFFSET & SYM= Push, TRIGGER PHASE=Free run;		3. 10 Mhz Standard Timebase
			MODULATION: AM, FM & SWP=Release,		4. Leveled Sinewave
			MODULATION Output=Max, SYM=CAL.		Generator [SG-503]
2	+ 17V Adjust.	VR101	Measure the output voltage of R101 lead (right) relative	+ 17 +/- 0.01V	DMM: 20 VDC
	J	{GFG-427}	to GND, adjust VR101 to get +17.0V show on DMM.		
3	- 17V Adjust.	VR102	Measure the output voltage of R102 lead (left) relative	- 17 +/- 0.01V	DMM : 20 VDC
		{GFG-427}	to GND, adjust VR102 to get -17.0V show on DMM.		
4	Offset Null Adjust.	VR207	Dial scale=Max, Main Generator RANGE=100;		DMM : 200 mVDC
	·	{GFG-428}	Measure the voltage drop on R237 or R238 relative to		
			GND by using DMM. Adjust VR207 to get a reading of		
			110mV.		
5	EXT Counter	VR001	COUNTER=Ext, GATE Time=0.1sec, 1/10 @ 1/1	<= 15 mVrms	SG 503 : 15 mVrms
	Sensitivity Adjust.	{GFG-429}	button=Release; Apply a 10 Mhz 15 mVrms Sinewave		Freq: 10.0 Mhz &
			signal to EXT COUNTER Terminal, adjust VR001 until		30.0Mhz
			the display is stable. Check the display steadiness of		
			multiple level X1, X.1 & X.01[SG 503] for EXT ATT=1/1		
			and X1 & X.1 for EXT ATT=1/10. Push 30M/10M button		
			to select 30M; Repeat the above checking procedures		
			for the range of 30 Mhz by apply 30Mhz 15 mVrms		
			sinewave signal to EXT COUNTER Terminal.		
6	EXT Counter 10Mhz	VC001	GATE Time=1sec,10M/30M=Release;	10 Mhz +/- 100 hz	
	Timebase Adjust.	{GFG-429}	Apply 10 Mhz standard Time base to EXT COUNTER		
			Terminal, adjust VC001 until the counter reads 10Mhz.		
MA	DDWILL INSTRUMENT LAYSIA) SDN. BHD. SINEERING DEPARTMENT		COVED BY CHECKED BY PREPARED I	ВҮ	APPLICABLE ODM MODEL: FG-813 BK-3040

	FOR INTERNAL USE CALIBRATION PRO		MODEL: GFG-813	PAGE: 4 STATION: 1	
NO	9	Location	Particular	Specification	Remarks
7	Main Generator Output		Connect MAIN O/P terminal to the o'scope without 50	Without 50 Ohm Load:	O'scope Setting:
	Level Check.		Ohm load, check output level of sinewave, trianglewave	20 ~ 25 Vpp	T/D = 1  mS
			& squarewave. Repeat the checking procedures by	With 50 Ohm Load:	V/D = 5 V [Without Load]
			connect the O'scope to MAIN O/P terminal through a	10 ~ 13 Vpp	V/D = 2 V  [With Load]
			50 Ohm load.		
8	SYNC Output Level		Set GFG-813 as step 6, Connect SYNC OUTPUT to	Without 50 Ohm Load:	O'scope Setting:
	Check.		O'scope, check output level of sinewave, trianglewave	> 1 Vpp	T/D = 1  mS
			& squarewave. Repeat the checking procedures by	With 50 Ohm Load:	V/D=0.2V [Without Load]
			connect the O'scope to MAIN O/P terminal through a	> 0.5 Vpp	V/D=0.2V [With Load]
			50 Ohm load.		
9	Modulation Generator		MODULATION : RANGE=10K, Freq=Max;		
	Output Level Check.		Connect MOD. OUTPUT to O'scope, check sinewave,		
	•		trianglewave & squarewave output level.		
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(MA	LAYSIA) SDN. BHD. FINEERING DEPARTMENT	Affr	CILCRED DI FREFARED	D I	FG-813 BK-3040

1	FOR INTERNAL USE CALIBRATION PRO		MODEL: GFG-813	PAGE : 5 STATION : 2	e of 5
NO	Adjustment	Location	Particular	 Specification	Remarks
1	Initial Setting.		MAIN GENERATOR · AMPL=Max SYNC=Push		Instrument Used ·

NO	Adjustment	Location	Particular	Specification	Remarks
1	Initial Setting.		MAIN GENERATOR : AMPL=Max, SYNC=Push,		Instrument Used:
	-		OFFSET=Push, ATT=Release, TRIGGER PHASE =		1. Frequency Counter
			Free Run;		[GFC-8130G]
			MODULATION : AM, FM & SWP = Release.		2. 100 Mhz O'scope
2	Main Generator Dial	VR201	Dial Scale=Max, RANGE=1K, Counter EXT/INT=Release	< 0.5 %	100Mhz O'scope :
	Scale MAX Squarewave	VR204	Main FUNCTION=Squarewave;Connect SYNC output		V/D=5V , T/D=2uS;
	Symmetry Adjust.	{GFG-428}	to Freq Counter [GFC] & MAIN output to a 100Mhz		GFC-8130G Setting:
			O'scope.Adjust VR201 so that the reading show on GFC		FUCTION=FREQ A
			is 13.4Khz. Adjust SWEEP VAR of O'scope to get a		GATE TIME=Push & Min
			positive halfcycle of 10 div show on CRT. Select the		TRI LEVEL=Push
			the SLOPE to -ve,adjust VR204 to get a balanced		LPF,ATT,COUP=Release
			waveform.		
3	Main Generator Dial	VR205	O'scope sweep variable=lock;		100Mhz O'scope:
	Scale MIN Squarewave	VR206	Dial Scal=Min, Adjust VR206 to get a 5 Div positive		V/D=5V , T/D=1mS;
	Symmetry Adjust.	{GFG-428}	cycle and adjust VR205 to get 5 Div negative cycle.		
4	Main Generator Dial	VR201	Loosen dial scale lock nut, adjuts dial scale to get a		GFC-8130G Setting:
	Scale Accuracy Adjust.	{GFG-427}	balance on 1 & 10 scale; tighten the lock nut, turn dial		FUCTION=FREQ A,
	-		scale to 10, adjust VR201 to get 10Mhz. Make sure		GATE TIME=Push & Min,
			the output freq of dial scale Max is greater than 13Mhz.		TRI LEVEL=Push,
5	Main Generator Dial	VR205	Dial Scale=Min; Connect SYNC output to GFC input	94.5 to 95.5 Hz	100Mhz O'scope :
	Scale MIN Frequency &	VR206	terminal & MAIN output to O'scope with BNC-BNC.		V/D=5V , T/D=0.5mS;
	Squarewave Symmetry	{GFG-427}	Set O'scope T/D=0.5mS, adjust O'scope SWEEP VAR		GFC-8130G Setting:
	Adjust.		to get a 10 Div positive cycle. Set O'scope triggering		FUCTION=FREQ A,
	3		to -ve slope; adjust VR205 to get a 10 Div negative cycle.		GATE TIME=Push & Min,
			Check GFC reading to make sure that the output freq		TRI LEVEL=Push,
			is within 94.5 to 95.5 Hz. If not, re-adjust VR205 &		LPF,ATT,COUP=Release
			VR206 with condition that the duty cycle must balance.		
GOODWILL INSTRUMENT (MALAYSIA) SDN. BHD. ENGINEERING DEPARTMENT		APPR	OVED BY CHECKED BY PREPARED B	Y	APPLICABLE ODM MODEL: FG-813 BK-3040

]	FOR INTERNAL USE CALIBRATION PRO		MODEL: GFG-813	PAGE : STATION :	6 2 of 5
NO	9	ent Location Particular		Specification	Remarks
6	Main Generator Dial		Dial Scale= Min; Check duty cycle with O'scope when	< 0.5%	O'scope Setting:
	Scale MIN Squarewave		MAIN RANGE=10, 100, 1K, 10K. If duty cycle is out		RANGE V/D T/D
	Symmetry Check.		of specifications, repeat from step 5.		10 5 V 20 mS
					100 5 V 2 mS
					1K 5 V 0.2 mS
					10K 5 V 20 uS
7	Main Generator Dial		Dial Scale= Max; Check duty cycle with O'scope when	< 0.5%	O'scope Setting:
	Scale MAX Squarewave		MAIN RANGE=0.1, 1, 10, 100, 1K. If duty cycle is out		RANGE V/D T/D
	Symmetry Check.		of specifications, repeat from step 2.		0.1 5 V 20 mS
					1 5 V 2 mS
					10 5 V 0.2 mS
					100 5 V 20 uS
					1K 5 V 2 uS
8	1 Mhz Frequency	VC205	MAIN Generator : RANGE=100K; Dial Scale=10,	970 ~ 1030 Khz	GFC-8130G Setting:
	Adjust.	{GFG-428}	FUNCTION=Squarewave; Adjust VC205 to get 1 Mhz		
			ouput.		
9	10 Mhz Frequency	VC302	MAIN Generator : RANGE=1M; Adjust VC302 to get	9.5 ~ 10.5 Mhz	GFC-8130G Setting:
	Adjust.	{GFG-428}	10.4 Mhz output.		
10	5 Mhz Frequency	VC301	Dial Scale=5; Adjust VC301 to get 5 Mhz output.	4.75 ~ 5.25 Mhz	GFC-8130G Setting:
	Adjust.	{GFG-428}			
11	Dial Scale Max		Dial Scale=Max; FUNTION=Squarewave; check the	> 13.1 Mhz	GFC-8130G Setting:
	Frequency Check.		output freq. If the frequency is less than 13.1 Mhz,		
			repeat from step 8 to step 11.		
(MA	DOWILL INSTRUMENT LAYSIA) SDN. BHD. INEERING DEPARTMENT	APPF	ROVED BY CHECKED BY PREPARED B	ЗҮ	APPLICABLE ODM MODEL : FG-813 BK-3040

	FOR INTERNAL USE ( CALIBRATION PROC			MODEL: GFG-	·813		PAGE: 7 STATION: 2		
NO	ů .					Specification		Remarks	
12	Dial Scale 10 Accuracy			heck the output frequenc	y from the	RANC	SE FREQUENCY	GFC-8130G Setting:	
	Check		MAIN frequency	RANGE = $0.1$ to $1$ M.		0.1	0.97 ~ 1.03 Hz	FUCTION=FREQ A	
						1	9.70 ~ 10.3 Hz	GATE TIME=Push & Min	
						10	97.0 ~ 103 Hz	TRI LEVEL=Push	
						100	970 ~ 1030 Hz	ATT,COUP=Release	
							9.70 ~ 10.3 KHz	LPF=Push	
							97.0 ~103 KHz		
							970 ~ 1030 KHz		
						1M	9.50 ~ 10.5 MHz		
(MA	DDWILL INSTRUMENT LAYSIA) SDN. BHD. GINEERING DEPARTMENT	APPF	ROVED BY	CHECKED BY	PREPARED I	3Y		APPLICABLE ODM MODEL: FG-813 BK-3040	

NO	Adjustment	Location	Particular	
1	R INTERNAL US ALIBRATION PR	, (1,_1	MODEL: GFG-813	

FOR INTERNAL USE ONLY CALIBRATION PROCESS			MODEL: GFG-813	PAGE : 8 STATION : 3		
NO	Adjustment	Location	Particular Particular	Specification	Remarks	
1	Initial Setting.		MAIN Generator : AMPL=Max, SYM & OFFSET=Push,		Instrument Used:	
			ATT=Release, TRIGGER PHASE=FREE RUN;		1. Frequency Counter	
			MODULATION : OUTPUT=Max, SYM=CAL,		[GFC-8130]	
			FUNCTION=Squarewave.		2. 100 Mhz O'scope	
2	Diel Cools Assumers		MAIN Generator : RANGE=100;	SCALE FREQUENCY	CEC 9120C Catting	
	Dial Scale Accuracy Check.		Connect SYNC OUTPUT to GFC then check the output	0.1 0 ~ 65 Hz	GFC-8130G Setting:	
	Спеск.		1		FUCTION=FREQ A GATE TIME=Push & Min	
			frequency from dial scale = 0.1 to 13.			
				2 135 ~ 265 Hz	TRI LEVEL=Push	
				3 235 ~ 365 Hz	LPF,ATT,COUP=Release	
				4 335 ~ 465 Hz		
				5 435 ~ 565 Hz		
				6 535 ~ 665 Hz		
				7 635 ~ 765 Hz		
				8 735 ~ 865 Hz		
				9 835 ~ 965 Hz		
				10 935 ~ 1065 Hz		
				11 1035 ~ 1165 Hz		
				12 1135 ~ 1265 Hz		
				13 1235 ~ 1365 Hz		
3	MODULATION Generator	VR803	MODULATION : RANGE=10K, FREQUENCY=Max;			
	Frequency Control MAX	{GFG-427}	Connect MOD OUTPUT to Freq. Counter & O'scope,	< 0.5 %	GFC-8130G Setting:	
	Squarewave Symmetry	(010 .27)	adjust VR803 so that Duty Cycle=50 : 50. Adjust	( 0.5 / )	As Previous	
	Adjust.		MODULATION Freq control to get an output freq of 5 Khz		O'scope Setting:	
	- 10jest		Set O'scope V/D to 10uS then check the squarewave		V/D=0.5 V	
			duty cycle again.		T/D=2 uS	
(MA	DWILL INSTRUMENT LAYSIA) SDN. BHD. INEERING DEPARTMENT	APPR	OVED BY CHECKED BY PREPARED	BY	APPLICABLE ODM MODEL : FG-813 BK-3040	

	CALIBRATION PRO	CESS	MODEL: GFG-813	STATION:	3 of 5
NO	3	Location	Particular	Specification	Remarks
4	MODULATION Generator	VR802	MODULATION : FREQ = Min;	< 0.5 %	O'scope Setting:
	Frequency Control MIN	{GFG-427}	Adjust VR802 to get 50: 50 duty cycle.		V/D=0.5 V
	Squarewave Symmetry				T/D=0.5 mS
	Adjust.				
5	MODULATION Generator		MODULATION : FREQ = Min;		
	Frequency Control MIN		Check output duty cycle when MODULATION generator	< 0.5 %	O'scope Setting:
	Squarewave Symmetry		RANGE is 100 and 10K.		RANGE=100
	Check.				V/D=0.5 V T/D=50 mS
					RANGE=10K
					V/D=0.5 V T/D=0.5 mS
6	MODULATION Generator		MODULATION : FREQ = Max;		O'scope Setting:
	Frequency Control MAX		Check output duty cycle when MODULATION generator		RANGE V/D T/D
	Squarewave Symmetry		RANGE is 1, 100 and 10K.		1 0.5 V 20 mS
	Check.				100 0.5 V 0.2 mS
					10k 0.5 V 2 US
7	MODULATION Generator		MODULATION : RANGE=10K, Adjust MODULATION	> 15 : 1	O'scope Setting :
	Variable SYM Check.		Generator freq control to get an output of 1Khz; turn		V/D = 0.5 V
			SYM control fully clockwise. Check duty cycle of the		T/D = 0.5  mS
			output.		
8	Main Generator Variable	1	MAIN : RANGE=100, Dial Scale=10,	Fully Anticlockwise:	O'scope Setting :
	SYM Check.		FUNCTION=Squarewave;	> 20 : 80	V/D = 5 V
			Connect MAIN output to O'scope, pull main generator	Fully Clockwise:	T/D = 0.1  mS
			SYM control, turn it fully clockwise and check duty	> 80 : 20	
			cycle of the output.		
<u>~</u>	DOWILL INSTRUMENT	A DDD	OVED BY CHECKED BY PREPARE	D RV	APPLICABLE ODM MODE
ΛI	LAYSIA) SDN. BHD. INEERING DEPARTMENT	AIT	TREFARE	<i></i>	FG-813 BK-3040

-	FOR INTERNAL USE CALIBRATION PROC		MODEL: GFG-813		0 3 of 5
NO	•	Location	Particular	Specification	Remarks
9	MODULATION Generator		MODULATION : FREQ=Min, FUNCTION=Squarewave;	FREQUENCY	GFC-8130G
	Output Frequency Span		Connect MODULATION Output to Frequency Counter,	RANGE MIN MAX	
	Check.		check the output frequency when MODULATION Range=	1 < 0.1Hz >1.2Hz	
			100 & 10K. Set MODULATION FREQ to Max, Check the	100 < 1.2Hz >120Hz	
			output frequency for MODULATION Range=1, 100 &10K.	10K < 120Hz >12KHz	
10	FM Modulation Check.		MAIN: RANGE=10K; Connect SYNC OUTPUT to freq.	MIN: < 95 Khz	GFC-8130G
			counter, adjust dial scale to get 100Khz output.	MAX : > 105 Khz	
			MODULATION: FREQ Control = 2 scale before Max,		
			FM=Press, FUNCTION=Squarewave; Check Max & Min		
			output frequency.		
11	Sweep Width Check.		MAIN: RANGE=100K; FM=Release;	> 100:1	GFC-8130G Setting:
	a weep with energy		Adjust Dial Scale to get 1.3 Mhz output. Press SWP	or < 13 Khz	FUCTION=FREQ A
			and check MIN sweep frequency.	91 ( 10 1200	GATE TIME=Push & 10
			and short that control in equation,		from Min
					TRI LEVEL=Push
					LPF,ATT,COUP=Release
					, , , , , , , , , , , , , , , , , , , ,
(MA	DOWILL INSTRUMENT LAYSIA) SDN. BHD. SINEERING DEPARTMENT	APPF	ROVED BY CHECKED BY PREPARED	BY	APPLICABLE ODM MODEL: FG-813 BK-3040

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NO	Adjustment	Location	Particular	Specification	Remarks
1	Initial Setting.		MAIN: AMPL=Max, SYM,OFFSET=Push, ATT=Release		Instrument Used:
			FUNCTION=Sinewave, TRIGGER PHASE=FREE RUN;		1. Distortion Meter
			MODULATION : FUNCTION=Sinewave, OUTPUT=Max,		[GAD-201B & DM-153B]
			AM, FM & SWP=Release, SYM=CAL.		2. Frequency Counter
					[GFC-8130G]
					3. DC Power Supply
					[GPR-3030D]
					4. DMM [GDM-8045G]
2	MAIN Generator	VR401	MAIN : RANGE=10K, Dial Scale=2;	< 0.4 %	GAD-201B Setting:
	Distortion Adjust.	VR402	Connect MAIN OUTPUT to Distortion Meter [GAD-201B]		RANGE/SPOT=Press
		{GFG-427}	through 50 Ohm load. Adjust VR401 & VR402 to get		SPOT=20K
			least distortion.		Set INPUT LEVEL =10 V
					DISTORTION=3 % then
					Press HOLD
3	MAIN Generator		Check Distortion of Main Generator output with setting	< 0.4 %	GAD-201B Setting:
	Distortion Check.		as shown below:		Same As Step 2 Except
			Dial Scale RANGE Dist Meter		SPOT=1K
			1 1K GAD-201B		
			10 100 GAD-201B		
			10 1 DM-153B		
			1 10 DM-153B		
			5 10K DM-153B		
4	MAIN Generator ATT		MAIN : RANGE=100, Dial scale=10;	( - 20 +/- 1 ) dB	
	Check.		ATT= depress -20dB then -40dB;	(-40 +/-1) dB	
			Connect DM-153B to MAIN OUTPUT to check the		
			accuracy of attenuation.		
MΑ	DOWILL INSTRUMENT LAYSIA) SDN. BHD. SINEERING DEPARTMENT	APPR	OVED BY CHECKED BY PREPARED BY	Y	APPLICABLE ODM MODEL : FG-813 BK-3040

]	FOR INTERNAL USE CALIBRATION PRO		MODEL: GFG-813	PAGE : STATION :	12 4 of 5
NO	Adjustment	Location	Particular	Specification	Remarks
5	MODULATION Generator	VR901	MODULATION: RANGE=10K; Connect MODULATION	< 1.5 %	GAD-201B Setting:
	Distortion Adjust.	VR902	OUTPUT to Distortion Meter & Frequency counter.		RANGE/SPOT=RANGE
		{GFG-427}	Turn MODULATION Generator FREQ control to get an		RANGE = X 100
			output frequency of 5 Khz. Adjust VR901 & VR902 to		T. FREQ; D Scale=50
			get least distortion.		Set I/P LEVEL to 1 V &
					DISTORTION to 3 %
					then press HOLD
6	MODULATION Generator		Check the distortion of MODULATION Generator	< 1.5 %	1Khz GAD-201B Setting :
	Distortion Check.		OUTPUT with setting as below:		RANGE/SPOT=SPOT
			RANGE FREQUENCY D.METER		SPOT = 1 Khz
			10K 1 KHz GAD-201B		10Khz GAD-201B Setting
			10K 10 KHz GAD-201B		RANGE/SPOT=RANGE
			100 10 Hz DM-153B		RANGE = X 100
					T. FREQ; D Scale=100
7	VCG 1000 : 1 Check.		MAIN: RANGE=100K, Dial Scale=10. Connect DC	[-] 1.6 V ~ [-] 2.4 V	
			Power Supply to VCG IN terminal with reverse polarity,		
			slowly increase supply voltage until the output frequency		
			reduce to 1 Khz. Observe supply voltage.		
8	VCG Impedance Check.		Connect DMM to VCG IN terminal, measure VCG IN	3.50 ~ 3.85 K Ohm	DMM Setting :
			input impedance.		V/mA/Ohm = Ohm
					RANGE = 20 K
	DOWILL INSTRUMENT LAYSIA) SDN. BHD.	APPF	COVED BY CHECKED BY PREPARED E	BY	APPLICABLE ODM MODEL : FG-813
ENG	INEERING DEPARTMENT				BK-3040

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NO	Adjustment	Location	Particular	Specification	Remarks
1	Initial Setting.		MAIN: AMPL=Max, SYM,OFFSET=Push. ATT=Release		Instrument Used:
			TRIGGER PHASE=FREE RUN.		1. 100 Mhz O'scope
			MODULATION : AM, FM & SWP = Release,		[GOS-6100]
			OUTPUT=Max, SYM=CAL		2. Function Generator
					[GFG-8016G]
2	MAIN Generator	VC701	MAIN : FUNCTION=Squarewave, RANGE=100 K,	< 20 nS	O'scope Setting:
	Squarewave Rising &	{GFG-427}	Dial Scale=10; Connect MAIN OUTPUT to O'scope		V/D = 2 V
	Falling Time Adjust.		through 50 Ohm load, adjust VC701 to get 18 nS rising		T/D = 20  nS
			& falling time.		
3	Squarewave Overshoot		Remove 50 Ohm load, check positive & negative cycle	< 4 sub div	O'scope Setting:
	Check.	1	overshoot. If the overshoot is out of spec, repeat step 2.		V/D = 2 V
					T/D = 0.2  uS
4	Sinewave Frequency	C407	MAIN: FUNCTION=Sinewave, RANGE=100,	6.4 ~ 7.6 Div	O'scope Setting:
	Responce Adjust.	{GFG-427}	Dial Scale=10; Connect MAIN OUTPUT to O'scope	or $<= +/- 2 dB$	V/D = 2 V
			through 50 Ohm load, turn O'scope VAR vertical		T/D = 2  mS
			sensitivity so that O'scope show 8 Div vertically. Set		
			MAIN generator frequency RANGE to 1M, adjust C407		
			to get 7.2 Div. Check the frequency responce at 13Mhz.		
5	Trianglewave Frequency	C223	MAIN : FUNCTION=Trianglewave, RANGE=100,	6.4 ~ 7.6 Div	O'scope Setting:
	Responce Adjust.	{GFG-427}	Dial Scale=10; Connect MAIN OUTPUT to O'scope	or $<= +/- 2 dB$	V/D = 2 V
			through 50 Ohm load, turn O'scope VAR vertical		T/D = 2  mS
			sensitivity so that O'scope show 8 Div vertically. Set		
			MAIN generator frequency RANGE to 1M, adjust C223		
			to get 7.2 Div. Check the frequency responce at 13Mhz.		
(MA	DOWILL INSTRUMENT LAYSIA) SDN. BHD.	APPF	ROVED BY CHECKED BY PREPARED B	SY.	APPLICABLE ODM MODEL FG-813
ENG	SINEERING DEPARTMENT				BK-3040

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	CALIBRATION PRO	CESS	MODEL: GFG-813	STATION:	5 of 5
NO	Adjustment	Location	Particular Particular	Specification	Remarks
6	AM Modulation Balance	VR601	MAIN: FUNCTION=Sinewave, RANGE=10K, Dial scale=	< 0.5 Sub Div of 8 Div	O'scope Setting:
	Adjust.	{GFG-427}	Max; MODULATION : FUNCTION=Sinewave, AM=Press,		V/D = 2 V
			Press; RANGE=100, FREQ=Max.		T/D = 0.5  mS
			Adjust VR601 to get a balanced Modulation waveform.		
7	AM Modulation DC	R614	Check AM Modulation DC Offset. If it is out of spec,	< 1 Sub Div of 8 Div	O'scope Setting:
	Offset Adjust.	{GFG-427}	change the value of R614.		Same as Step 6
8	AM Modulation EXT		MODULATION : FUNCTION=Release;	> 100 %	O'scope Setting:
	Sensitivity Check.		Apply 1 Mhz, 10 Vpp sinewave to EXT MOD input, check		V/D = 2 V
			AM Modulation waveform.		T/D = 0.2  uS
9	Max TRIGGER PHASE		MAIN: RANGE=100K, FUNCTION=Trianglewave,	> 90	O'scope Setting:
	Angle Check.		Dial Scale = 10;		V/D = 2 V
			MODULATION : FUNCTION=Squarewave, AM=Release,		T/D = 10  uS
			RANGE=10K, FREQ=Max;		
			[Rear Panel] : TRIGGER=MULTIPLE/INT;		
			Connect MAIN OUTPUT to O'scope, adjust VAR vertical		
			sensitivity of o'scope until the signal amplitude is 8 Div		
			show on the scope CRT. Turn TRIGGER PHASE fully		
			clockwise, check the TRIGGER PHASE angle.		
10	Min TRIGGER PHASE		[Rear Panel] : TRIGGER=SINGLE/INT;	< - 80	O'scope Setting:
	Angle and SINGLE Trigger		Adjust TRIGGER PHASE anticlockwise to lowest		V/D = 2 V
	Check.		trigger phase angle.		T/D = 0.2  uS
11	EXT TRIGGER Check.		[Rear Panel] : TRIGGER=MULTIPLE/EXT;		O'scope Setting:
			Apply 1 Khz TTL signal to EXT TRIGGER INPUT [rear		V/D = 2 V
			panel]; check the functioning of EXT TRIGGER.		T/D = 0.1  mS
(MA	   DOWILL INSTRUMENT   LAYSIA) SDN. BHD.   INEERING DEPARTMENT	APPR	COVED BY CHECKED BY PREPARED E	<u>1</u> 3Y	APPLICABLE ODM MODEL: FG-813 BK-3040

	FOR INTERNAL USE CALIBRATION PROC		MODEL: GFG-813	PAGE : STATION :	15 5 of 5
NO		Location	Particular Particular	Specification	Remarks
12	TTL OUTPUT Level		TRIGGER PHASE=Free Run; Connect TTL OUTPUT to	> 3 V	O'scope Setting:
	Check.		O'scope, check the output amplitude.		V/D = 1 V
					T/D = 0.5  uS
13	TTL Rising / Falling Time		Connect TTL OUTPUT to O'scope through 10 : 1 probe,	< = 25 nS	O'scope Setting:
	Check.		check rising and falling timeof the GFG-813.		V/D = 0.5 V
					T/D = 20 nS
(MA	DOWILL INSTRUMENT LAYSIA) SDN. BHD. SINEERING DEPARTMENT	APPF	OVED BY CHECKED BY PREPARED E	BY	APPLICABLE ODM MODEL : FG-813 BK-3040