Instruction Manual

REMOTE CONTROL BOX

OM3500 A

OM POWER, s. r. o.   930 30 Báč 126
SLOVAKIA

General description of the OM 3500 A Remote control

Remote Control expands possibilities of using OM3500 A up to 10 meters away from your operating position. When needed it is also possible to connect Remote Control unit to LAN network and control it using special software (not part of this package) to unlimited distance.

Warning:
It is absolutely a must to observe and follow all best practices and safety precautions as well as your local health and safety law and fire / electricity regulations. We do recommend using visual remote control like Web Camera etc.

Package includes:
- Remote control OM3500A
- Power supply 230V / 12V, 600mA
- 10m patch lead to link Remote control with OM3500A PA

Front Panel

ON / OFF   - Standard ON / OFF switch. On state is indicated by green LED on the switch

OPERATE   - button controls the operating state of the PA. When i noperating mode green
                    LED is lid

POWER   - Power LED indicates connection of power supply. 12V / 500 mA

FAULT   - Red Fault LED indicates fault on PA. It shall be lid on any fault condition!

STBY   - yellow LED indicates Stadby state of the PA

TUNE   - yellow LED will be lid if PI tuning circuit indicates that additional tuning is necessary

GRID   - indicates 2nd grid protection. Trigered if safe screen current has been reached)

SWR   - Yellow LED will indicate excessive reflected power on PA's antenna socket

DRIVE   - will be lid if maximum drive power has been exceeded

OUTPUT POWER   - 30 segments bar graph will indicate peak output power

Rear panel

LAN   - Standard RJ45 connector - LAN Interface for remote access

ON   - Main ON / OFF switch. (Cut's off 12V supply to unit)

DC 12V   - power jack (5,5 / 2,1) for supply of 12V / 600mA

CAL   - kalibračný potenciometer (v prípade potreby na zosuladenie výkonového bargrafu s bargrafom na OM3500A)

PA   - socket for direct connection to OM3500A PA

Warning:

Please pay extra attention not to use PA socket as LAN socket as harmful voltages could damage your Ethernet devices such as switches, PCs etc. Use only supplied 10m cable to connect your PA with Remote Control unit.

Grounding

The Remote control box has to be grounded properly! Connect the screw on the rear panel of the box to your local grounding system with a copper-cable; use a cross-section of 4 mm^2 at least.
Connect your transceiver and amplifier to the same grounding system of your shack carefully!
If you use a power amplifier with higher output you have to be aware that your grounding system works properly. **All parts have to be grounded to the same system.** Use short cables and make sure that there are good contacts! Otherwise you run the risk of damaging your equipment, having problems with TVI/BCI or your signal may be distorted.

Deployment instructions:

1. Connect unit with OM 3500A PA using supplied cable
2. Supply 12V DC voltage to power socket using supplied PSU
3. Check that green POWER LED and yellow STBY LED are both lid. Shall any connection fault occur it will be indicated by sequenced POWER and STBY flashing and FAULT led will be lid constantly.
4. Turn the PA on using the ON button. Tube heating process will begin. This will be indicated by green LED on the ON button and by flashing of four LEDs (TUNE,GRID,SWR,DRIVE) (WAIT led will be also lid on the PA's front panel)
5. After heating process PA is now ready to be turned into operating mode using OPERATE button. Use same switch to enter STBY / OPERATE (works as reset shall fault state occur)

LAN Connection

Remote unit is interfaced to LAN via XPORT made by Lantronix (type XP1001000-03R more info can be found at www.lantronix.com).
Default factory settings of XPORT are:
      IP address   192.168.1.222   (first series can be: 192.168.1.101)
      Mask   255.255.255.0
      Gateway   192.168.1.1

These are strictly default settings. You can modify any of these by going to XPORT web GUI via your web browser. We do not recommend changing any other parameters of the XPORT interface as loss of communication can be caused by doing so. There is no default user name or password. It is highly recommended to secure web interface with username and password.

For remote control over LAN and monitoring special software is needed. (This will be released very soon)

Definition of communication over LAN / Internet

When turned on and operating OM3500 A transmits information about level of output power being delivered by PA. This value is sent 10 times per second. Also it will send letter „W" as wait once per scond.

After successful heating process "W" is replaced by staus of the PA:

- "Z" indicates STBY mode. "Z" indicates it is not possible to go OPERATE for any reason.
- "**S**" indicates that switch is in OPERATE position but Remote control box or remote software ha manualy turned PA into STBY, but it is possible to switch PA into OPERATE
- "**O**" PA is in OPERATE mode

Transmit power value is delivered as sum of number 128 and a number in range 0 to 127 (full power) in binary form. (bit 7 set to 1) that means that real number transmitted is 10000000 to 11111111.

If FAULT state has been trigered fault code is sent followed 0,5 second later by 0 and by fault code again. This then loops in same frequency as flashing lights on front panel.
Shall a fatal fault state occurs unit will sent "T" character.
Reset is possible by sending "R" When PA accepts reset command it shall respond with a „G" followed by transmit power value and state "Z", "S" or "O" according to operating state of the PA.

List of fault codes:
"0" – no fault
"1" – IP (Plate curent too high)
"2" – HV (Plate / Anode voltage too low)
"3" – SWR (excessive reflected power)
"4" - Ig2 (Screen current limit exceeded)
"5" – Overdrive (too much drive from exciter)
"6" - FWD=0 (power output is zero with drive power higher than zero)
"7" – Igmax (1st grid current limit exceeded)
"8" – Tune (insufficient tuning – retune PA)

Commands over LAN

"S" - enters PA into STBY   - reply of PA: "S"
"O" - enters PA into OPERATE   - reply of PA: "O"
"R" - reset fault   - reply of PA: "G" folowed by "S" or "O"
">" - Turn PA ON   - reply of PA: ">"
"<" - Turn PA OFF   - reply of PA: "<"
"F" - Sends last 20 fault codes. Reply is list of all 20 fault codes.

Letters and numbers indicated between " " are ASCII characters. Only power output level is transmitted as BINARY number.
It is possible that CPU won't accept command for first time it has been send. That is reason why algorhytm has been designed to send reply as confirmation otherwise command should be resend!

In case your Remote control box forOM3500A amplifier is not working correctly, please contact the manufacturer or your distributor,

Manufacturer's contacts: OM POWER, s.r.o.
930 30 Báč 126
SLOVAKIA

e-mail: ompower@nextra.sk