

C02_{DSP} / C03_{DSP} / C04_{DSP} RDS ENCODER

QUICK INSTALLATION GUIDE

1 MAINS SUPPLY

Before connecting the C0x_{DSP} to the mains supply, verify that the supplied C0x_{DSP} is specified to work with the mains voltage and frequency. Then connect an appropriate supply cable to the mains socket. The C0x_{DSP} should now turn on.

2 CONNECT A PC

For remote control you need an RS-232C connection between the C0x_{DSP} device and the PC. Devices which are equipped with a TCP/IP interface can be remote controlled via TCP/IP also.

Devices with a TCP/IP interface but without LC Display and jogwheel require an RS-232C connection for the initial setting of the IP address. After the initial setup you are able to use the RS-232C connection or a TCP/IP connection for setup and control.

C02_{DSP}: The IP address of C02_{DSP} device can be set via the jogwheel - therefore you do not need an RS-232C connection. Please do not connect the device to your network because the IP address is not yet defined.

C03_{DSP}/C04_{DSP} RS-232C connection: Connect the supplied serial RS-232C crossover cable to a COM port of your PC and the [FRONT] connector (see Fig.1).

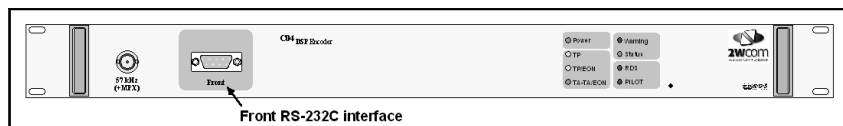


Fig.1: C03_{DSP} / C04_{DSP} front RS-232C interface location

3 INSTALL ARCOS BASIC

Insert the supplied CD-ROM into the CD-ROM Drive of your PC. Copy the folder „Arcos Basic“ from the CD to the harddisk of your PC. Open the folder „Arcos Basic“ on your harddisk and start the file „Arcos Basic.exe“. Please note that the software requires the Jet 4.0 DAO engine ≥V3.6 to be installed on your PC. If the software does not start and you use an older OS (e.g. Win98 - which contains an older DAO engine), please refer to microsoft.com* to get the latest Jet 4.0 service package. * e.g. see article ID 239114 at <http://support.microsoft.com/kb/239114/en-us>

4 SETUP RS-232C CONNECTION

(Not necessary for C02_{DSP}): Open the menu [Configuration] of Arcos Basic, select [COM Port] and set the parameters to 9600/8/N/1 (default) or to your customized parameter and the port setting to the COM port being used on your PC. To check if the connection works or to find out the configured baud rate of the [Front] interface you can choose [Check connection...] from the menu [Tools].

5 SETUP TCP/IP CONNECTION (IF APPLICABLE)

Additionally to the RS-232C connection you can use a TCP/IP connection for setup and control of the device (if applicable). To setup the TCP/IP connection just follow the steps below. If no TCP/IP interface is required or available just skip to step 7.

C03_{DSP}/C04_{DSP}: The first step is to assign an IP-address to the device. To do this you need an RS-232C connection. Configure the RS-232C connection as described above. Then in „Arcos Basic“ you need to choose [TCP-IP-Settings] from menu [Tools]. Here you can assign an IP-address, a netmask and also a gateway and a TCP port number (if applicable) to the device. Afterwards you have to send the settings to the device. Note that it is important to use an IP-address which is unique in your network.

C02_{DSP}: Use the jogwheel and the LC Display of the device (see Fig. 2) to set the IP-address. To do this just navigate to [Interface]>[TCP/IP]>[IP Address] and set the four parts of the IP address by rotating and pushing the jogwheel. Note that it is important to use an IP-address which is unique in your network. In the same way you are able to setup other necessary settings like the netmask and also a gateway and port number (if applicable).

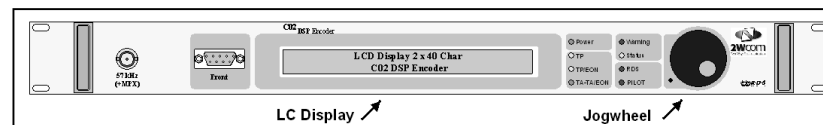


Fig.2: C02_{DSP} LC Display and jogwheel

C02_{DSP}/C03_{DSP}/C04_{DSP}: Now it is necessary to configure „Arcos Basic“ for the TCP/IP communication to the device. To do this you need to choose [COM Port] from the „Arcos Basic“ menu [Configuration]. Enter the [IP-Address] you assigned to the device before, enter the [TCP port] number you assigned to the device before or 6666 (default) and select [TCP/IP] as interface, then click [OK].

Proceed to step 6.

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6 CONNECT TCP/IP PATCHCABLE (IF APPLICABLE)

If you decided to use TCP/IP as connection to the device, just follow the instructions below. Otherwise just skip to step 7.

Connect the supplied RJ-45 patchcable to your TCP/IP network and to the TCP/IP jack ([10/100 Base-T]) on the rear side of the device (see Fig.3).

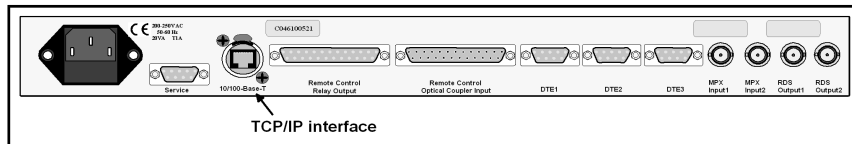


Fig.3; Location of the TCP/IP interface jack

7 SETUP THE RDS PARAMETER

All parameter of the C0x_{DSP} can be setup via the „Arcos Basic“ software. Just use the tabs with the required settings and read the data of the connected C0x_{DSP} with the [Request] button. To send your settings use the [Send] button. Note that the „send/request items“ checkboxes determine which items are processed. Make sure that your settings are according to the RDS specification (IEC 62106) and the radio regulation authorities.

8 CONNECT THE RDS ENCODER

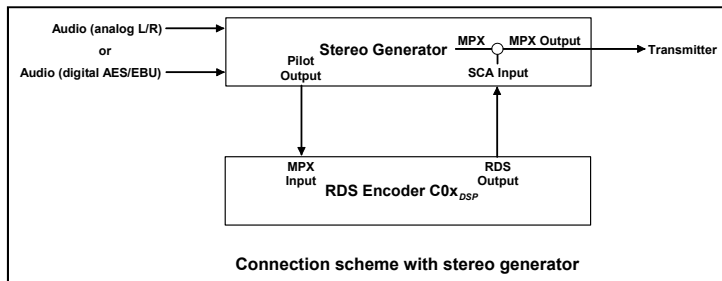


Fig.4; Connection to stereo system

For a summation of the MPX signal and the RDS signal inside the stereo generator, the MPX bypass of the C0x_{DSP} has to be turned off (not necessary for devices without summation feature). To do this, use „Arcos Basic“. Go to the tab [MEC-Edit], and send the entry [Set MPX bypass off] or the MEC command [2D,04,52,53,01,00] to the C0x_{DSP}. Then the pilot signal is used for synchronisation only and only the RDS signal is at the output of the C0x_{DSP}.

Connect the C0x_{DSP} to your system as shown on Fig.4.

9 CHECK MODULATION

Finally it is good practice to perform a check of the phase between the pilot signal (19 kHz) and the RDS signal (57 kHz). This ensures to have the lowest possible deviation for RDS.

To do this: Measure the MPX signal at the MPX output of the stereo generator with an oscilloscope. Note that the program signal (voice/music) needs to be turned off during the measurement. If you do not measure a symmetric signal like in Fig. 5, you can adjust the phase setting of the C0x_{DSP} via „Arcos Basic“ to achieve a symmetric signal.

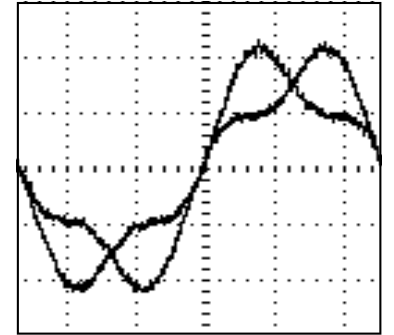


Fig. 5; Symmetric signal

(Note: Waveform readability depends on RDS/Pilot signal voltage ratio).

Of course you should also check the resulting deviation of the complete MPX signal as well as other relevant parameter for conformity of the total signal.