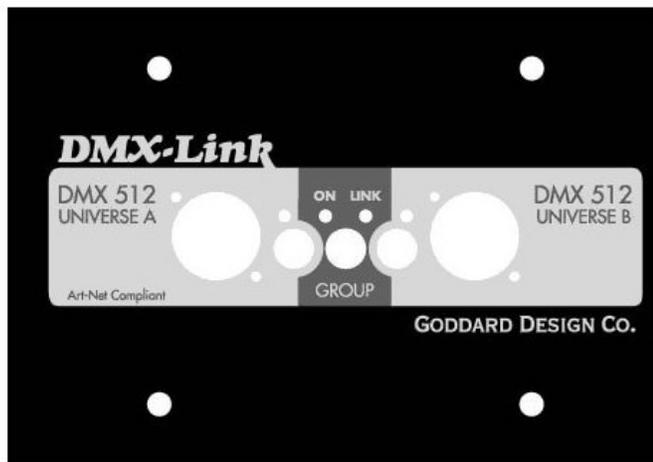# DMX-Link
DMX512 over an Ethernet backbone

Goddard Design Company is pleased to introduce another product to aid in the distribution of lighting control signals - DMX-Link. DMX-Link allows multiple universes of DMX512 to be sent over a standard Ethernet cable plant. We see these products as complimenting our **DMX-NET** line of DMX distribution modules. With DMX-Link even sophisticated distribution systems can be built without using patch panels or complicated routing switchers.

DMX-Link supports the Art-Net protocol, the only TCP/IP based theater protocol with multi-vendor support. Any product that supports the Art-Net protocol to transport DMX style data should be inter-plugable with GDC DMX-Link products.

DMX-Link Products

DMX-Link Encode2 is a two-universe DMX 512 to Ethernet encoder. Each panel is assignable to one of 16 different network groups. Each panel has two DMX512 input connectors. The DMX512 on each connector is encoded and assigned to the panel's group and to one of 16 different DMX universes within that group. (While this theoretically means that 256 universe networks are possible, anyone needing more than 16 - 18 universes should consult the factory.)

DMX-Link Decode2 is a two-universe Ethernet to DMX512 decoder. It provides two DMX512 output connectors. Each panel is assignable to one of 16 groups and then each connector can be assigned to one of 16 universes. Configuration is simplicity itself - set the universes you need at this location, and plug in your DMX cable. An extremely useful feature of DMX-Link is that if two DMX inputs are selected to the same group and universe, those inputs are merged. These inputs may be connected to any DMX512 input on any DMX-Link Encoder2 or for that matter from one input on a DMX-Link panel and one input on any Art-Net compliant device. This makes DMX-Link an economical merge unit that just happens to come with a distribution system attached!

Common features:
The wall mount version is mounted to a three-gang cover plate compatible with standard US surface or flush boxes. The front panel provides two DMX512 connectors, each with a tally LED. There is also a LED to indicate that the unit is powered and running, and one to indicate network status. Three 16-position rotary switches set the unit function. These units will also be available as table top units.

Ethernet Backbone
The 10BaseT Ethernet connection is made by a rear mounted RJ45 connector. The simplest system is an **Encoder2** unit connected by crossover cable to a **Decoder2** unit. More complicated systems will require addition of at least one 10Base T Ethernet hub. These are low-cost items available from standard IT suppliers. Ruggedized hubs may also be available from some theatrical dealers. In most systems there is no need for a computer or any other control equipment. In all cases the rules for Ethernet cabling must be followed. ESTA publishes recommended practices on Ethernet cabling for theater and entertainment.

Because the current version of Art-Net protocol is a class A network it is not recommenced that Art-Net networks share the same physical wiring with other networks, particularly those connected to the Internet.

Power supply
Both encoders and decoders require an external power source of 9 to 48 VDC. In many applications 24-volts is an excellent choice. This supply may be distributed by a separate cable or by the Ethernet cable using the IEEE 802.3 standard. GDC sells a 12 way building cable termination and midspan power inserter to do this. (FD DMX-LC)

The current required by a unit is dependent on the power supply voltage reaching the unit. Contrary to expectations the required supply current increases as the available voltage decreases. The power supply input on units sold after January 1, 2003 is isolated. This means that a common supply may power multiple DMX-Link units while maintaining isolated DMX512.

DMX-Link component	Current required at:		
	10 Volts	20 volts	30 volts
Encoder2	140mA	70mA	50mA
Decoder2	200 mA	95 mA	65mA

Set up and configuration
Both encoders and decoders may be configured by simply setting the three front panel switches or they may be remotely configured and interrogated across the network. Basic PC-based configuration software is available free of charge.

DMX-Link is upgradable
Because both DMX512 and the Art-Net protocol are works in progress, DMX-Link modules are field upgradable. The operating soft ware can be updated across the Ethernet connection, so modules don't even need to be demounted to have a software upgrade.

As entertainment data distribution evolves Goddard Design will continue to work with the Art-Net community to assure that DMX-Link and other Art-Net products have long useful life.

Price List - Professional Net		
Part #	Description	Price
FD DL_Encoder2	DMX-Link 2 Universe Encoder Wall Unit	$560.00
FD DL_Decoder2	DMX-Link 2 Universe Decoder Wall Unit	$560.00

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